

REMARKS/ARGUMENTS

The claims are 1-10. Claims 1 and 5 have been amended to improve their form. In addition, claims 5-10 have been amended to remove reference numerals. Reconsideration is expressly requested.

Claims 1 and 5 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for using the phrase "e.g.". In response, Applicants have amended claims 1 and 5, *inter alia*, to remove the phrase "e.g.," which it is respectfully submitted overcomes the Examiner's rejection under 35 U.S.C. §112, second paragraph.

Claims 1-10 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Vanderborgh U.S. Patent Application Publication No. 2002/0098136*. Essentially the Examiner's position was (1) that *Vanderborgh* discloses the claimed method for nozzle-jetting oxygen and the claimed device for nozzle-jetting oxygen, except

for the method being performed as part of an oxy-dehydration process, and (2) that it would have been obvious to use the process of *Vanderborgh* in any process requiring oxygen including an oxy-dehydration process as in claim 1.

This rejection is respectfully traversed.

As set forth in claims 1 and 5 as amended, Applicants' invention provides a method for nozzle-jetting oxygen into a synthesis reactor for oxy-dehydration for largely axial flow of the gas mixture through a catalyst bed and a device especially for conducting this method.

As recited in claim 1 as amended, the oxygen is fed to a ring distributor system arranged above the catalyst bed in pure form, as air mixed with inert gas or water vapor and is jetted on to the catalyst surface through several exit openings in the ring distributor at an inclined angle from the vertical.

As recited in claim 5 as amended, the device includes a ring distributor including several concentric ring pipes provided with exit openings above a catalyst bed where the exit openings are designed for jetting the oxygen on to the catalyst surface at an angle inclined away from the vertical.

In this way, Applicants' invention provides a method and device in which the mixing in and mixing through the oxygen above the catalyst is clearly improved particularly for an oxy-dehydration process. As discussed at pages 1-2 of Applicants' disclosure, by jetting the oxygen on the catalyst surface, a through-mixing can be achieved within a very short time <100 ms, so that the reaction time in zones with over-stoichiometric oxygen concentrations and the non-catalytic reactions get minimized. As the mixing takes place in open air and the oxygen-rich mixing has no contact with walls of the catalyst, damage caused to materials due to the nozzle-jetted oxygen gets minimized.

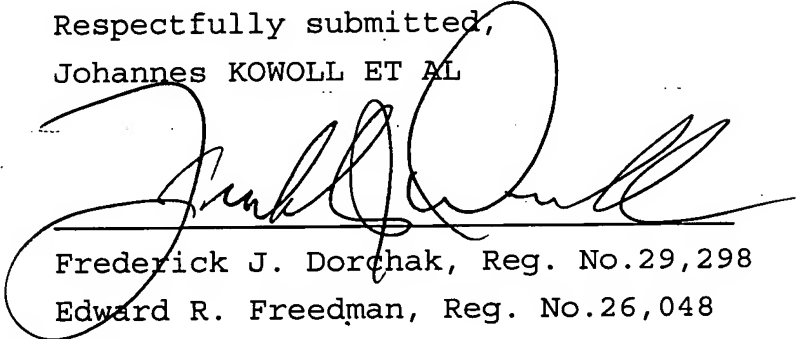
The Examiner's position with respect to Vanderborgh is

similar to that taken in the International Preliminary Report on Patentability, a copy of which is enclosed for the Examiner's reference. Nevertheless, it is respectfully submitted that *Vanderborgh* fails to disclose or suggest a method and a device wherein oxygen is jetted onto the catalyst surface. *Vanderborgh* shows in FIG. 2, for example, that a tangential inflow is not excluded, which means that even the walls of *Vanderborgh* are used for flow guidance. It is also clear from *Vanderborgh* that there is no disclosure or suggestion of an immediate contact with contact of the oxygen with the catalyzer surface because paragraph [0010] of *Vanderborgh* indicates that the catalyzer may be located on the other side of the device described there. For example, *Vanderborgh* states that a small section of catalysts in pelletized form is positioned after the second porous media 4. Accordingly, the problem to which Applicants' method and device are directed is nowhere disclosed or suggested or even contemplated by *Vanderborgh*.

Accordingly, it is respectfully submitted that claims 1 and 5 as amended, together with claims 2-4 and 6-10 which depend on claims 1 and 5, respectively, are patentable over Vanderborgh.

In summary, claims 1 and 5-10 have been amended. In view of the foregoing, it is respectfully requested that the claims be allowed and that this application be passed to issue.

Respectfully submitted,
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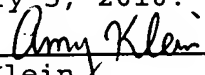
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Enclosure:

Copy of the International Preliminary Report on Patentability

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Amy Klein

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